Northern Ireland Assembly

Committee for the Environment

OFFICIAL REPORT (Hansard)

Review of Wind Energy: RaISe Briefing

24 October 2013

NORTHERN IRELAND ASSEMBLY

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Members present for all or part of the proceedings:
Ms Anna Lo (Chairperson)
Ms Pam Brown (Deputy Chairperson)
Mr Cathal Boylan
Mr Ian McCrea
Mr Barry McElduff
Mr Ian Milne
Mr Peter Weir

Witnesses:
Ms Suzie Cave RaISe

The Chairperson: I now invite Suzie Cave, our researcher, to go over her research paper. I apologise to Suzie for keeping her back the last time and postponing it to this week. You are very welcome again.

Ms Suzie Cave (RaISe): Thank you very much. I will try to keep this brief. It might not be just as quick as last week, but I will try.

I refer to the terms of reference that members were shown at the meeting on 10 October. This paper mainly relates to the first of the three that were identified, and that is to assess the adequacy of planning policy statement (PPS) 18 and related supplementary guidance in regulating proposals for wind turbines, in particular, with regard to issues of noise and separation distances. The paper also looks at arrangements across the UK and the Republic of Ireland, and considers areas worldwide where more stringent requirements have been set.

The first few pages of the paper mainly give an account of the process for making a planning application for wind farms and turbines, including the information that must be provided and how decisions are made. However, it focuses specifically on looking at separation distances from residential areas or "setback" as it is sometimes referred to. Those seem to vary greatly between countries in distances, the reason for their establishment and the weight that is given to them; that is, whether they are just recommendations or more of a statutory requirement.

In Northern Ireland, there does not appear to be any statutory separation distances stipulated in legislation. Recommendations or suggestions for separation are made through planning policy and guidance. Although these influence and inform decisions that are made on applications, it is good practice for a developer to adhere to the recommendations made; however, they are not obligated to do so.

Planning policy statement 18 suggests that turbines are a safe technology and that, even in the rare event of structural damage occurring, incidents of blade throw are most unlikely. Therefore, distances are calculated on the basis of keeping noise levels to a minimum, and those details are on pages 341 and 342. The Department of the Environment's best practice guidance on PPS 18 goes on to state:

> *"As a matter of best practice for wind farm development, the Department will generally apply a separation distance of 10 times rotor diameter to occupied property (with a minimum distance of not less that 500m)."*

When we look to the rest of the UK, it is apparent that no separation requirements are written in legislation. Similar to Northern Ireland, distances are suggested in policy and accompanying guidance, which are detailed on pages 342 to 343. In England, planning policy statement 22 suggests the same general requirements as PPS 18. However, the companion guide to PPS 22 suggests a separation distance of 350 metres. Scottish planning policy suggests a distance of up to 2 kilometres between areas of search and edge of settlements to guide developments to the most appropriate sites. A Welsh technical advice note on planning for renewable energy states that 500 metres is considered a typical distance. In the Republic of Ireland's guidelines for wind farm development, 500 metres is also the distance that is suggested between any turbine and noise sensitive property.

That having been said, and although unsuccessful to date, attempts have been made in the UK and Republic of Ireland to introduce separation distances through legislation. There have been three attempts in England to introduce a private Member's Bill that state statutory distances. However, none of those Bills progressed beyond Second Stage, the main reason being the possible impacts on the wind energy industry. That was illustrated in the Republic of Ireland, where, in November 2012, Deputy Willie Penrose introduced the Environment and Public Health (Wind Turbines) Bill 2012, which proposed separation distances of between 500 metres and up to 2 kilometres, depending on the size of the turbine. The Bill was not passed because it was felt that it could hinder the South's ability to meet EU renewable energy and climate change commitments.

That statement was made on the back of research carried out by the All-Island Research Observatory at the National University of Ireland, Maynooth, where the practical consequences of setting each of the separation distances between turbines and residential areas were mapped. The maps in appendix 3, beginning at page 355, illustrate the extent of the land area that would remain following the introduction of these exclusion buffers. In the case of the 500-metre setback, just under a quarter — 23·75% — of the total land area of the country would remain available for new wind farm development. However, that drops to 9·4% for the 1,000-metre setback, to 5·2% for the 1,500-metre setback and to 3% for 2,000-metre setback.

Since last week, I have been able to produce similar maps for Northern Ireland, copies of which have been passed round. Ring buffers were created round every domestic property in Northern Ireland using a geographical information system called ArcGIS. The maps show in green the remaining area of land that is not covered by a buffer. The property data was extracted from Northern Ireland's address database called Pointer, which is maintained by Land and Property Services with input from local district councils and Royal Mail. The data is current, as of 17 October. Only properties that were approved, built and domestic were used to create buffer zones. It is important to highlight that those scenarios do not take into consideration other constraints, such as availability of wind resource, buffers for watercourses, roads, communications, protected sites etc. Therefore, the total land area remaining available could in fact be smaller than the scenarios suggest.

In the UK, a number of local authorities are developing their own minimum distances between turbines and housing. Although those policies may have limited status, they demonstrate that separation distances are considered to be an issue across many areas of England. There are different examples of practice and approaches undertaken. The table in appendix 2 provides a range of examples to illustrate the range of distances selected and the status of the approach.

On 6 June 2012, Lincolnshire County Council issued a press release calling for a halt to the unrestrained invasion of wind turbines across Lincolnshire, stating that a minimum of 2 km and 10 times the diameter of the blade would be applied between turbines and residential property for noise and flicker reasons. In Milton Keynes, the council, in its supplementary planning document, tried to adopt a sliding scale of distance requirements according to turbine height. However, the policy was quashed in a High Court case, when the judge concluded that national guidance:

"plainly indicates that local authorities should not have a policy that planning permission for a wind turbine should be refused if a minimum separation distance is not met."

There are a number of cases worldwide where distances have been set on a more statutory basis than just recommendations or guidelines. Pages 348 to 349 give an overview of some of those. Examples range from Hamburg in Germany to Ontario in Canada. Although Germany, Denmark and Canada do not have any national level requirements for setback distances, local authorities set their own requirements. Hamburg published a document on exclusion zones for wind turbines, which outlines the setback distances required from residential areas, nearest roads, railways, forests and protected areas.

In Denmark, municipalities are in charge of the planning for wind turbines up to 150 metres tall. They produce requirements for setback distances that fall within Danish law parameters. That includes setback from residential and coastal areas. In general, municipalities are considered to prefer flatland over hill land and grouping of turbines to reduce visual impact. People living within six times the total height of any wind turbine may have their property valued to assess any decrease. If the property is determined to have decreased in value by a minimum of 1%, they might be reimbursed by the wind facility developer.

In Canada, setback requirements are decided at the provincial level. Ontario has well-developed setback regulations, including distances from residential areas, public roads and railways, workplaces and recreation areas. Other areas that have policies include Brunswick and Prince Edward Island. Details of those are provided on page 350.

In conclusion, the main questions surrounding the use of statutory setback distances can be summarised as the following: would tightening requirements restrict wind development, and, if so, would that impact on Northern Ireland's ability to reach the 2020 target of 40% renewable energy, when, in 2012, Northern Ireland reached 12%?; and what are the other renewable energy options available regarding their appropriateness for the Northern Ireland landscape, set-up costs and time, and their ability to generate energy in time to make the 2020 targets?

I know that the paper focused on a specific area, but if there are any other areas that members would like to consider, I am happy to discuss them. Thank you.

The Chairperson: Thank you very much indeed. It seems that very few places have a set distance on the statute book.

Ms Cave: Yes. It is normally just guidance, and recommendations are then made.

The Chairperson: Residents have told us that it is sometimes less than 500 metres here in Northern Ireland. Maybe our planners are following PPS 18 guidelines.

Ms Cave: The guidance states that each application is judged independently and that other considerations are taken into account as well. So, it allows for that degree of flexibility.

The Chairperson: The issue is not the danger of it falling down or blades flying off; it is the noise.

Ms Cave: It is the noise and, in some areas, the flicker.

The Chairperson: It even affects the television picture.

Ms Brown: Thank you for your paper, Suzie; it is interesting reading. I was trying to find the terms of reference, because I am not sure what we are basing this on. I just want to throw out a few questions. I was just wondering how efficient wind turbines are, given that they use wind to generate electricity but the wind does not always blow. So, how efficient are they on land?

There is no mention of costs in your paper. I know that wind turbines are heavily subsidised, but, when you look at how much energy they produce compared with how much we as consumers pay for that, how cost-efficient are they?

Separation distances obviously have a significant impact; that is, the bigger the separation distance, the fewer we will see. Although I am not opposed to wind turbines as such, I do not like the sight of

them on the landscape. If they were dotted all over the place, I would be a bit concerned about the impact on what is a very beautiful landscape in Northern Ireland.

I know that there is not a lot of evidence to say that wind turbines have an adverse impact on people's health, but I question whether the noise levels could cause sleep deprivation, thereby impacting on the health of residents who live very close to them. Sleep deprivation obviously has a huge impact on your health. So, if sleep is disturbed, what is the outworking of that? There are lots of questions, I feel, coming out of this.

The Chairperson: The likes of the Northern Ireland Renewables Industry Group (NIRIG) said that there is no medical evidence to say that the noise level is above what you would hear on a windy day and that the negative effect is only in the minds of the people concerned. That is the problem.

Ms Brown: I have heard people on radio programmes saying that they do hear them. Maybe it depends on which way the wind is blowing or different weather circumstances, but they do hear them, and it disturbs them. So, I think that there are more questions.

The Chairperson: Pam makes a good point. Maybe we should look into how efficient they are and what value for money they provide, given that we all contribute to them through grants.

Ms Cave: A good starting point would be the Department of Enterprise, Trade and Investment's (DETI) draft action plan on onshore renewable energy for 2011 to 2020. On the question of efficiency, I mentioned that we reached 12% in 2012, and the draft plan basically states that onshore wind made the biggest contribution to that. It also lists eight other forms of technology that it feels would, when combined, reach 90% of the target for 2020. It is about this idea of reaching shorter-term targets and longer-term targets, and about what is the most viable technology to reach those shorter-term targets and what would be best in the longer term.

The Chairperson: Should we invest more in looking at other forms of renewable energy, such as geothermal? Apparently, that could be the most efficient. That involves pumping underground.

Mr Weir: It is fracking.

The Chairperson: No it is not. Geothermal is kind of underground —

Mr Weir: So is fracking.

The Chairperson: It involves getting the air from there or whatever.

Ms Cave: The technologies that the DETI draft action plan lists include offshore energy, marine energy, biomass electricity, biomass heat, ground-source and air-source heat pumps, and renewable transport. Those are the top seven that they recommend in that action plan.
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The Chairperson: Members, we contacted Professor Geraint Ellis, a semi-independent academic at Queen's, to come to talk to us. We heard the pros and cons and both sides of the argument from the industry through NIRIG and from residents in the west Tyrone group. I felt that perhaps we needed an independent academic to talk to us. If members are agreeable to that, he can be available for our next meeting, which is on 7 November. If we have him talk to us, that will more or less conclude our inquiry. It will be only a short inquiry.

Mr McElduff: Will the academic from Queen's address the issue of sleep deprivation? Will that be one of the issues?

The Chairperson: No. He is from planning, essentially. We are looking at only two aspects, which are planning and distance rather than the health side.

Mr McElduff: Yes, OK. I understand.

Mr Boylan: Suzie, thanks very much for the paper. We waited for two weeks to receive the presentation.

The Chairperson: Have you read it?

Mr Boylan: Yes, Chair.

Mr McElduff: He absorbed and digested it.

Mr Boylan: Barry touched on a good point. We decided to do a small inquiry and focused on the planning side, but there are other issues. I am concerned because we keep going back to the 40% target for renewables, which Suzie mentioned in her report. The wind energy element has played a big part in the renewable energy targets. We have no figures for the other renewable energy sources, and they have not gone anywhere, be it tidal or whatever the other sources are within the renewable —

The Chairperson: Biomass is another area that we could explore.

Mr Boylan: Exactly. That is in PPS 18. Unfortunately, the wind energy is only one element, which raises questions for us.

In other areas, it seems that it is 500 metres for wind farms. Planning Service uses 10 times the rotor diameter of the wind turbine. Did you find that it was just a copy-and-paste job from other areas? Are those the general distances that we are looking at?

Ms Cave: In England, the relevant one is planning policy statement 22. That is very similar regarding the distance from the rotor blade. Whenever you take it down, though, to the supplementary guidance, it is 350 metres; whereas here, we are setting a minimum of 500 metres. As you know, with it being supplementary guidance, there is still a degree of flexibility and it is left to the discretion of planners at the time and individual applications.

Mr Boylan: Did your research find that Planning Service is considering the targets or it is just going on planning laws? I can imagine Planning Service sitting there and somebody arguing the point that the Programme for Government has set a certain target for renewable energies. Does any research suggest that that is playing a part in the decision-making process?

Ms Cave: It sounds logical to have a look into that. I am not sure whether there is anything available from the Department that states that Planning Service takes those targets into consideration. The main documents that it seems to make its material decisions on are listed. The issue is whether targets, which are obviously monitored more by DETI, are taken into consideration. However, there is no mention of that.

Mr Boylan: I do not know whether there are any figures for, or monitoring of, the effects. People mentioned sleep deprivation and noise pollution, but I do not know whether there has been a body of work done anywhere in the world that suggests that that has been monitored, over time, to see whether any damage is being done. I do not know whether there has been any research on that. We are focusing on planning, but the health issues — the noise pollution and everything that goes along with it — have been the main cry from the groups that have come to us. Is there any research that we could look at? Once we formulate our response at the end of this short inquiry, maybe that is something we could touch on.

The Chairperson: We decided that we are going to look only at the two main aspects, but, as you said, we need to mention that those were the issues brought up by people. I do not think that we can delve into that very much.

Mr McElduff: We could raise those issues and write to the relevant Committees suggesting that they may wish to examine those areas.

The Chairperson: That is a good idea, Barry.

Suzie, you have produced this map, which is great. Is it very difficult for you to map out for us the existing farms that we have in Northern Ireland in a similar map so that we can see where the concentrations are? Is it easy enough for you to do that?

Ms Cave: I can have a go.

The Chairperson: Then we can see and compare. I suggest that it would be very similar.

Ms Cave: The maps were produced in conjunction with one of my colleagues who works in geographic information systems, so I will speak to her to see what we can do.

The Chairperson: That way, we will know the concentration.

Thank you very much indeed, Suzie.